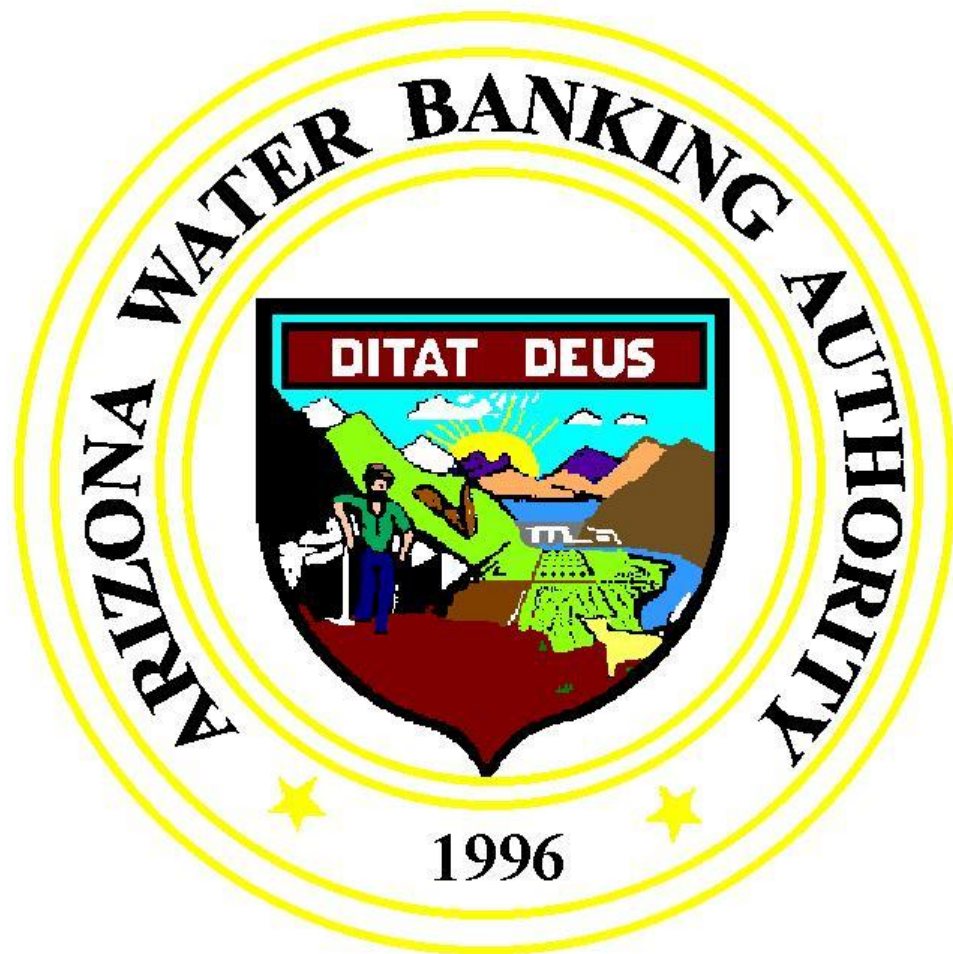


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ARIZONA WATER BANKING AUTHORITY

ANNUAL REPORT
2012



Submitted

July 1, 2013

Arizona Water Banking Authority

Annual Report 2012

**Honorable Janice K. Brewer
Governor of Arizona**

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Acronyms and Abbreviations

ADWR	Arizona Department of Water Resources
Agreement to Firm	Agreement to Firm Future Supplies executed February 4, 2005 between the Arizona Water Banking Authority and the Mohave County Water Authority
Amended Agreement to Firm	Amended Agreement to Firm Future Supplies executed March 17, 2010.
AMA	Active Management Area
AWBA	Arizona Water Banking Authority
AWB Fund	Arizona Water Banking Fund
AWSA	Arizona Water Settlements Act
CAGRD	Central Arizona Groundwater Replenishment District
CAP	Central Arizona Project
CAWCD	Central Arizona Water Conservation District
CRCN	Colorado River Commission of Nevada
Credits	Long-term storage credits
CRSS	Colorado River System Simulation Model
Decree	Consolidated Decree of the U.S. Supreme Court in <i>Arizona v. California</i>
GRIC	Gila River Indian Community
GRIIDD	Gila River Indian Irrigation and Drainage District
GSF	Groundwater Savings Facility
ICUA	Intentionally Created Unused Apportionment
Interagency Group	Interagency Recovery Planning Group
IGA	Intergovernmental Agreement
JLBC	Joint Legislative Budget Committee
Letter Amendment	Letter Amendment to Second Amended Agreement for Interstate Banking Agreement signed December 9, 2010
M&I	Municipal and Industrial
MAF	Million Acre-feet
MCWA	Mohave County Water Authority
MDWID	Metropolitan Domestic Water Improvement District
Metropolitan	Metropolitan Water District of Southern California
NIA	Non-Indian Agricultural
Plan	Annual Plan of Operation
Quantification Agreement	White Mountain Apache Tribe Water Rights Settlement Agreement
Reclamation	U.S. Bureau of Reclamation
Second Amended Agreement	Second Amended Agreement for Interstate Water Banking signed April 1, 2009 between the Arizona Water Banking Authority and the Southern Nevada Water Authority and the Colorado River Commission of Nevada
SIRA	Storage and Interstate Release Agreement
SMRP	Superstition Mountains Recharge Project
SNWA	Southern Nevada Water Authority
SSRB	Southside Replenishment Bank
USF	Underground Storage Facility

Summary

The Arizona Water Banking Authority (AWBA) was created in 1996 to store the unused portion of Arizona's annual allocation of Colorado River water. Until the AWBA was created, Arizona had not fully utilized its 2.8 million acre-foot (MAF) allocation of Colorado River water and the state's leaders recognized that leaving a portion of Arizona's allocation in the river was a lost opportunity. The AWBA was created to provide assurances that water users within the state had secure, long-term water supplies.

The AWBA stores Colorado River water that would have otherwise been unused to accomplish the following goals:

- To firm (insure the availability of) water supplies for municipal and industrial users in the Central Arizona Water Conservation District (CAWCD) service area and along the Colorado River in times of shortages;
- To fulfill the management plan objectives of the Arizona Groundwater Code;
- To assist in the settlement of Indian water rights claims; and
- To assist Nevada and California through interstate water banking.

Each year, the AWBA pays the water delivery and storage costs to bring Colorado River water into Central and Southern Arizona through the Central Arizona Project (CAP) canal. The water is either stored underground in aquifers (direct recharge) at underground storage facilities (USF) or is used by irrigation districts in lieu of pumping groundwater (indirect or in lieu recharge) at groundwater savings facilities (GSF). The AWBA accrues long-term storage credits that can be recovered and used in the future during times of a shortage in supply, either by Arizona or by Nevada.

The funding for water storage that benefits Arizona (intrastate storage) comes from three sources. There are restrictions regarding the manner in which these funds can be expended based on the source of the monies, which currently include:

- Fees for groundwater pumping currently collected within the Phoenix, Pinal and Tucson Active Management Areas (AMA). These monies can only be used to benefit the AMA in which the fees are collected.
- A 4¢ *ad valorem* property tax collected in the three county CAWCD service area. These monies can only be used to benefit the county in which the tax is levied.
- A general fund appropriation received at the discretion of the Legislature.

In addition to these three sources of funding, an additional \$8 million for intrastate storage was made available from the Southern Nevada Water Authority (SNWA) pursuant to the Arizona-Nevada Shortage Sharing Agreement. This fund, referred to as the Shortage Reparation Fund, is intended to assist Arizona in storing water to offset impacts from Colorado River shortages that may occur during the Interim Period (2008 through 2026). In addition to the funding sources for intrastate storage, the AWBA also used funds provided by Nevada pursuant to the Second Amended Agreement for Interstate Water Banking (Second Amended Agreement) to create credits for the benefit of Nevada.

In calendar year 2012, AWBA deliveries for recharge totaled 132,973 acre-feet and cost \$17.3 million. The AWBA also paid \$122,000 for the delivery of 1,000 acre-feet to the Gila River Indian Community

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for the Southside Replenishment Bank (SSRB) as mandated by the intergovernmental agreement between the AWBA and the Gila River Indian Community.

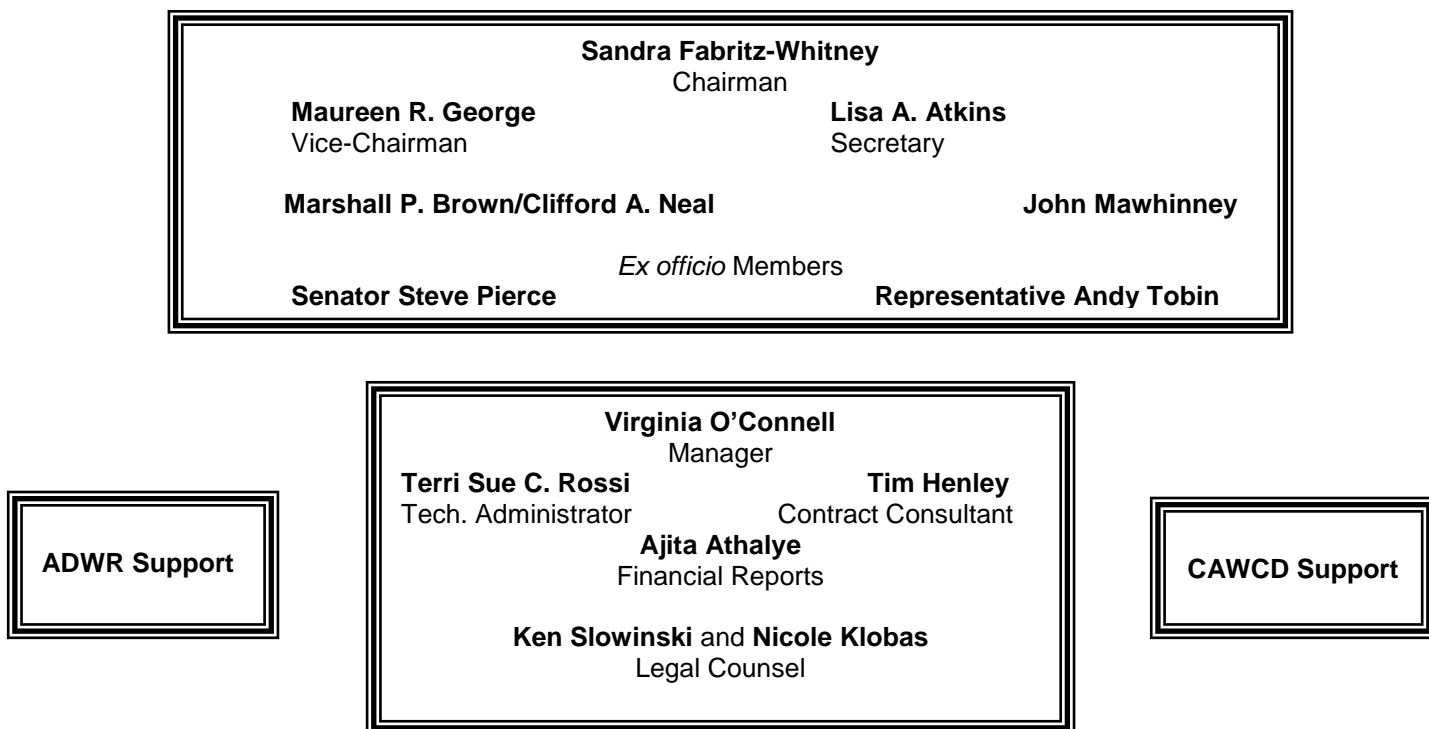
The AWBA has accrued approximately 3.8 million acre-feet of credits at a cost of approximately \$305 million from inception through calendar year 2012. Of this total volume, intrastate credits totaled just over 3.2 million acre-feet at a cost of around \$196 million or \$61 per acre-foot, and interstate credits totaled 550,651 acre-feet at a cost of around \$110 million or almost \$200 per acre-foot. In addition to the credits accrued by the AWBA, 50,000 acre-feet of credits previously accrued by CAWCD were transferred to the account creating a total of 600,651 acre-feet of credits available for Nevada.

Annual Report Requirement

Arizona Revised Statutes § 45-2426 mandates that the AWBA file an annual report with the Governor, President of the Senate, and Speaker of the House of Representatives on or before July 1 of each year for the previous calendar year. The report is required to be a full and complete account of the AWBA's transactions and proceedings and must include the following:

1. An accounting of all monies expended from the banking fund.
2. An accounting of all monies in the banking fund remaining available to the AWBA.
3. The amount of water stored by the AWBA.
4. The number of long-term storage credits distributed or extinguished by the AWBA.
5. The purposes for which long-term storage credits were distributed or extinguished by the AWBA.
6. A description of the water banking services and interstate water banking to be undertaken by the AWBA during the following ten-year period and a projection of the capacity of the AWBA during that period to undertake those activities in addition to storing Colorado River water brought into the state through the CAP for all of the following purposes:
 - a. Protecting this state's municipal and industrial (M&I) water users against future water shortages on the Colorado River and disruptions of operation of the CAP.
 - b. Fulfilling the water management objectives of the state.
 - c. Making water available to implement the settlement of water rights claims by Indian communities within Arizona.
7. Any other matter determined by the authority to be relevant to the policy and purposes of the AWBA.

Organizational Chart



There was one change to the membership of the AWBA Commission in 2012. Marshall P. Brown resigned from the Commission after accepting the position of Water Resource Director for the City of Aurora, Colorado. He was replaced by Clifford A. Neal from the City of Phoenix as the member who represents an entity that holds a Central Arizona Project municipal and industrial subcontract. There was also one change to the AWBA staff members. Terri Sue C. Rossi was hired as the Technical Administrator in May, replacing Gerry Wildeman who had submitted her resignation in October of 2011 for promotional opportunities within the Arizona Department of Water Resources.

Update

The AWBA Plan of Operation for 2012 (Plan) identified 120,002 acre-feet of water available for delivery from the 175,000 acre-foot pool created by CAWCD under its Access to Excess policy adopted in 2009. Pursuant to the Letter Amendment to the Second Amended Interstate Water Banking Agreement (Letter Amendment), the Plan did not include an interstate water banking component on behalf of Nevada. Early in the year, the Southern Nevada Water Authority (SNWA) informed the AWBA that it may have up to 60,000 acre-feet of unused apportionment available for storage in Arizona in 2012 and could also have water available over the next few years. SNWA indicated however that they did not have funds available to pay for the storage because they were focusing expenditures on completion of the third intake into Lake Mead. Because this storage would have been applied to the AWBA's contractual obligation to SNWA, the AWBA and CAWCD evaluated other potential options for storing Nevada's unused entitlement in Arizona.

In anticipation of storing Nevada's unused apportionment and to take advantage of aqueduct capacity when it was available, approximately 23,000 acre-feet in additional AWBA deliveries were made to the Tonopah Desert Recharge Project during February and March of 2012. However, the opportunity to store Nevada's allocation did not materialize. As the year progressed, this additional storage was offset by reduced requests by the AWBA's GSF partners and water that became available through CAWCD's process for remarketing previously allocated CAP supplies. Ultimately, the AWBA stored a total of 133,973 acre-feet of water in 2012, which included 1,000 acre-feet of direct deliveries to the Southside Replenishment Bank. The quantity of water that was delivered to each storage facility is described in Appendix A and totaled 78,082 acre-feet in the Phoenix AMA, 20,586 acre-feet in the Pinal AMA, and 34,361 acre-feet in the Tucson AMA.

Based on the Decree accounting data, total consumptive use of Colorado River water by Arizona for 2012 was 2.79 MAF. Distribution of the 2.79 MAF was approximately 1.16 MAF for direct uses along the Colorado River and CAP diversions of approximately 1.63 MAF (U.S. Bureau of Reclamation, Lower Colorado River Operations, Colorado River Accounting and Water Use Report Arizona, California, Nevada – Calendar Year 2012, dated May 2013). In 2012, storage by the AWBA assisted Arizona in using its entitlement to Colorado River water.

In 2012, the AWBA continued its quarterly meeting schedule with meetings on March 21, June 20, September 19, and December 19. There were no special meetings held by the AWBA. AWBA staff attended various workgroup meetings that continued throughout the year. These workgroups included the CAWCD, ADWR, and AWBA Interagency Recovery Planning Group, ADWR's Ad Hoc Recovery Planning Group, and the ADWR, CAWCD, and AWBA staff workgroup meetings on developing Arizona Colorado River baseline modeling assumptions.

For additional information regarding the AWBA, please see the AWBA website at www.azwaterbank.gov or contact Virginia O'Connell (voconnell@azwater.gov) or Terri Sue Rossi (tsrossi@azwater.gov) or by phone at 602-771-8487.

Activities and Projects - 2012

Interstate Banking

Pursuant to the Letter Amendment executed in December 2010, there was no storage or recovery for Nevada in 2012. The parties had agreed that because of hydrologic and economic conditions, the AWBA would forego additional interstate water banking for SNWA through 2014, and SNWA would forego requests for the development of intentionally created unused apportionment (ICUA) in the same time frame. The Letter Amendment also modified the payment schedule for the operating funds by deferring SNWA's payments until 2015.

In 2012, SNWA, CRCN, CAWCD, and AWBA staff continued to meet to discuss all aspects of the overall agreement including potential amendments to the payment schedule, the amount of the annual payments made by SNWA, and the repayment of monies loaned to SNWA from the Resource Account. As a result of those discussions, a draft Third Amended and Restated Agreement for Interstate Water Banking was presented to the AWBA Commission in December. The draft agreement included the following proposed changes:

- The AWBA no longer has an obligation to accrue future long-term storage credits to be held in the SNWA account.
- Payments made by SNWA to date (\$122,738,945) meet the obligation to pay for the 600,651 acre-feet of credits currently existing in the SNWA account.
- The parties can agree to future storage and accrual of credits to the SNWA account, including use of Nevada's unused apportionment for storage.
- SNWA bears all costs for any future delivery and storage of water, including administrative costs, which total 15% of the AWBA's actual administrative costs. SNWA pays \$20,000 per year for continuing administrative services in years when the AWBA does not store water for SNWA.
- There is no longer an Operating Account and a Resource Account. Costs for existing credits are considered paid in full and future storage costs are billed directly to SNWA.
- Term of agreement changes:
 - The agreement terminates when all existing and future credits in the SNWA account have been recovered, unless extended by written agreement.
 - Existing credits in the SNWA account must be recovered by December 31, 2063.
 - Future credits must be recovered within 50 years of the date of storage.
 - The oldest credits must be recovered first.

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The AWBA Commission elected to postpone action on the draft agreement until the next quarterly meeting scheduled for March 2013 so that they would have ample time to consider the proposed changes. Members of the public were asked to provide comments by January 31, 2013. [The agreement was subsequently executed May 20, 2013]

Interstate Water Banking Report

Since 2006, the AWBA has been required to submit a report to the Joint Legislative Budget Committee (JLBC) pursuant to A.R.S. § 45-2473. This report must be submitted by October 1 for the previous fiscal year if the AWBA was owed or received any monies pursuant to an interstate water banking agreement. The report must account for all monies received or disbursed pursuant to that agreement. Because the Letter Agreement deferred interstate banking activities through 2014, including water storage, the development of ICUA, and SNWA operating fund payments to the AWBA, the AWBA was not required to transmit an Interstate Water Banking Report to the JLBC for Fiscal Year 2011-2012. The AWBA will continue submitting its report once interstate activities resume in 2015 or if the AWBA is owed or receives monies pursuant to an interstate banking agreement that supercedes the Letter Agreement.

Water Storage Permits

The AWBA did not apply for or have any water storage permits issued in 2012. Staff however, attended an East Valley Water Forum meeting involving discussions on plans for a new regional recharge facility located in the eastern portion of the Phoenix AMA. The group is developing criteria to help determine the most suitable location for the proposed facility. Staff will continue to participate in these discussions as the AWBA has an interest in additional storage opportunities in this area.

Indian Firming Program

During 2012, AWBA staff participated with several Indian, non-Indian and Federal parties in discussions of various Indian water settlements. The AWBA concerns were mainly related to the need to firm water supplies resulting from the settlements.

White Mountain Apache Tribe

The Claims Resolution Act of 2010, which includes the White Mountain Apache Tribe Water Rights Quantification Agreement (Quantification Agreement), was signed by the President on December 8, 2010. Under this settlement, the AWBA is required to firm up to 3,750 acre-feet per year of non-Indian agricultural (NIA) CAP water until 2108. This obligation is part of the 8,724 acre-feet per year firming requirement identified for future settlements under the Arizona Water Settlements Act (AWSA). There are several activities that need to be completed to meet the enforceability date of April 30, 2021. These include: 1) revising the Quantification Agreement to conform to the federal legislation and execution of the revised agreement by the parties; 2) approval of the Quantification Agreement by the Gila River and Little Colorado River adjudication courts; and 3) a contribution of \$3 million from the State of Arizona toward the construction of the White Mountain Apache Tribe Rural Water System. The AWBA worked with the parties during the year on revisions to the Quantification Agreement and by year's end, ADWR submitted the amended and restated agreement to the Governor's Office for signature. In addition, during the 2012 Legislative Session, the Arizona Legislature appropriated \$2 million toward the settlement. It is anticipated that the enforceability date will be sometime in 2014.

Navajo Nation/Hopi Tribe

During 2011, the AWBA continued to be involved in negotiations with the Navajo Nation, the Hopi Tribe, the United States, ADWR, and various state parties for a settlement of the Navajo/Hopi claims to the Little Colorado River. On February 14, 2012, Senator Jon Kyl introduced legislation to Congress authorizing a Little Colorado River Settlement. The parties finalized language for a proposed settlement in March and agreed to submit the settlement agreement to their principals for approval. The settlement included an allocation of NIA CAP water to Window Rock that would have an AWBA firming obligation of up to 3,205.5 acre-feet per year. While not specifically identified, this obligation was included in the AWSA as part of the firming obligation for future settlements and would therefore not result in an increase the AWBA's firming obligations. In June of 2012, the Hopi Tribal Council voted to reject the legislation and in July, the Navajo Nation Council voted to reject the settlement. The Tribes indicated however that they would leave the door open for additional negotiations to try to resolve the outstanding issues.

Hualapai Tribe

In 2012, the AWBA, along with the ADWR, United States, and certain state parties, entered into negotiations with the Hualapai Tribe to settle the Tribe's water rights claims, which include claims to the Colorado River. Any proposed firming obligations for the AWBA will be within the amounts remaining from the 8,724 acre-feet identified in the AWSA and firmed under the same terms. These negotiations remain on-going.

Southside Replenishment Bank

In 2009, the AWBA executed an intergovernmental agreement (IGA) with the Gila River Indian Community (GRIC) for the purpose of establishing the Southside Replenishment Bank (SSRB) as mandated by the AWSA. The AWBA must schedule the delivery of at least 1,000 acre-feet per year to the SSRB until 15,000 acre-feet have been delivered. The first delivery was made in 2009. Since then, the AWBA has scheduled the delivery of 1,000 acre-feet of water each year bringing the total volume of the SSRB to 4,000 acre-feet in 2012.

By memorandum dated September 11, 2012, the AWBA was informed by ADWR that there were no irrigation replenishment obligations for the 2011 reporting year. It is not anticipated that there will be irrigation replenishment obligations for the 2012 reporting year, but that information will not be available until October of 2013 and will be reported in the 2013 Annual Report.

Distribution of AWBA Credits

Recognizing drought conditions on the Colorado River and the impact dropping reservoir supplies will have on future water deliveries, the AWBA began in 2011, to evaluate the potential for shortages to Arizona. An analysis was made to evaluate the potential need to use existing and future AWBA long-term storage credits (credits) to meet CAP and on-river Municipal and Industrial (M&I) and Indian firming requirements during times of shortage. A series of operational scenarios were developed and modeled using the Colorado River System Simulation (CRSS). The analysis indicated that while firming CAP M&I subcontract supplies may not be needed until well into the future, there is a probability that the AWBA may need to firm Indian and on-river supplies in the near term.

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During 2012, the AWBA in conjunction with ADWR and CAWCD continued to discuss the distribution of AWBA credits during times of shortage. The initial efforts focused on the development of a conceptual IGA between ADWR, CAWCD and AWBA that would contain the various roles each agency might play in the recovery and distribution of AWBA credits. To assist in the discussions, the AWBA developed two information briefs. The first Information Brief, *Capping the Distribution of AWBA Long-term Storage Credits for M&I Firming during Shortages*, addressed the issue of whether AWBA credits should be limited to a maximum of 20% of the total M&I priority subcontract entitlement. Based on information provided in the brief and comments from the public, the AWBA made the decision to limit M&I firming to 20% for planning purposes.

The second Information Brief, *Reducing the Amount of AWBA Long-term Storage Credits Distributed for M&I Firming during Shortages to Extend Credits for Future Years*, addressed the question of whether there should be a mandatory 5% cut for conserving credits. The objective of mandatory conservation would be the extension of AWBA credits into the future, primarily in the Tucson AMA. The AWBA has taken no position on the need for mandatory conservation.

As 2012 progressed, the focus of the AWBA's efforts to look at credit distribution shifted from the development of a conceptual IGA to the development of conceptual recovery plan. Currently, two groups are working on the credit distribution issue: one is an interagency workgroup between the AWBA, ADWR and CAWCD and the other is an ad hoc group with stakeholder representatives.

The first group, called the Interagency Recovery Planning Group (Interagency Group), is attempting the development of a conceptual recovery plan that would provide guidelines for how recovery of AWBA credits may be accomplished in the future. The Interagency Group prepared a paper concerning one aspect of distributing credits accrued with the 4¢ *ad valorem* tax monies. The paper proposed that AWBA credits be distributed to CAP to meet up to 20% of M&I priority subcontract orders during shortage consistent with existing M&I firming goals. The paper also provides for a consultation process in the event shortages to M&I supplies are greater than 20%. Once the conceptual recovery plan has been agreed upon then it could be made available to the AWBA's constituents to assist them in planning for their future needs.

The second group is an ad hoc group, created by ADWR that includes stakeholder representatives as well as staff from the three agencies. This group provides the Interagency Group input to help it understand stakeholder concerns. It will also assist in reviewing the conceptual recovery plan as it is developed.

The expectation of this effort is to have a comprehensive program on not only how shortages are addressed, but also the recovery of AWBA credits for meeting other contractual obligations.

Modeling

The AWBA continues to meet with staff from ADWR's Colorado River Management section and CAWCD to develop consistent baseline assumptions for the Arizona CRSS model for all the agencies to use. The model is one of the tools available to the AWBA to determine when shortages might occur and also to determine where to store and recover water. The modeling process will continue to be a dynamic process and there will continue to be changes in the future. The three agencies understand they need to coordinate their efforts and have agreed to do so through this modeling group.

2013 Plan of Operation

The amount of excess CAP water available to the AWBA for 2013 has decreased substantially from previous years. The AWBA currently purchases water from the excess CAP water pool that is available for use by the AWBA, Central Arizona Groundwater Replenishment District (CAGRD) for replenishment reserves, and the Federal government for Indian farming purposes. When the CAWCD Board created this pool under its Access to Excess policy, it originally identified a volume of 175,000 acre-feet. The amount of water available to the pool has been decreasing each year since 2010 when the pool was first created. This has been due primarily to an increase in demand from CAP M&I priority subcontractors and Indian contractors. For 2013, CAWCD adjusted the volume of water available to this pool to 61,371 acre-feet. The portion available to the AWBA was 52,546 acre-feet. This is the least amount of water that has been available to the AWBA since it first began storing water in 1997.

Under the AWBA's 2013 Plan approved December 19, 2012, projected deliveries for the AWBA include 51,546 acre-feet for intrastate storage and 1,000 acre-feet for direct delivery to the GRIC for the SSRB. The Plan estimates 24,516 acre-feet will be recharged at USFs and 27,030 acre-feet will be recharge at GSFs. There is no interstate storage planned for 2013.

ADWR Fourth Management Plan

In 2011, ADWR started the process of developing its Fourth Management Plan. Starting in 2012, ADWR began meeting with its Groundwater User Advisory Councils for stakeholder input. ADWR has also asked AWBA staff to assist in updating the sections of the Management Plan applicable to the AWBA and to provide some suggestions on how the AWBA could potentially assist ADWR in meeting the water management goals of the AMAs where the AWBA operates.

Website

Staff continues to utilize the AWBA website in an effort to provide timely and accurate information to the water community regarding the AWBA's activities: www.azwaterbank.gov. The web page contains information about the AWBA, Commission members and staff, announcements, meetings, storage facilities and water deliveries. In 2012, staff updated the water delivery page to make additional information available to the public. The AWBA's water deliveries are now available either by statewide totals, by AMA, or by storage facility and includes annual and cumulative delivery amounts for each. This information is available for both intrastate and interstate deliveries. In addition to water deliveries, the information also includes the amount of credits the AWBA has accrued as a result of those deliveries. The webpage also contains documents that may be downloaded and provides links to other water-related websites.

Monies Expended from the Banking Fund

Arizona Revised Statutes §45-2425 mandates the various sources of monies for the Arizona Water Banking (AWB) Fund. The AWB Fund is administered by the AWBA. In 2012, the AWBA obtained its funding from the following sources:

1. Fees for groundwater pumping are collected within the Phoenix, Pinal and Tucson AMAs. Fees for water banking purposes are charged at \$2.50 per acre-foot. Legislative changes allow for groundwater withdrawal fees to be collected and available to the AWBA beyond 2016 (A.R.S. §45-611(c)(3)). Long-term storage credits accrued with these monies must be used to benefit the AMA in which the monies were collected.
2. No *ad valorem* tax revenues were deposited into the AWB Fund in 2012. In June of 2011, the CAWCD Board again resolved that all taxes to be levied for the following tax year would be retained by CAWCD. All *ad valorem* monies previously held in the AWB Fund were expended by 2007. Money from this source must be used to benefit the county in which it was collected.
3. No general fund appropriation money was deposited in the AWB Fund in 2012.
4. Pursuant to the Agreement to Firm to Firm Future Supplies (Agreement to Firm), Mohave County Water Authority (MCWA) agreed to prepay the AWBA to set aside 230,280 acre-feet of credits that were transferred to the MCWA sub-account. Once the credits were identified for use by an entity outside of the three-county service area, CAWCD was required to charge the AWBA a fee in lieu of the 4¢ *ad valorem* tax. Monies collected from MCWA are used to offset the CAWCD fees which are charged at the same rate and on the same quarterly schedule as MCWA's prepayments to the AWBA. The final payment due under the Amended Agreement to Firm was made by MCWA in November of 2010 for the first quarter of 2011. The first prepayment under the Amended Agreement to Firm that sets aside an additional 25,894 acre-feet of credits was made in September of 2011 for the quarter beginning on October 1.

Table 1 shows the money the AWBA collected and the money that was expended for delivery and storage of water in 2012 by source of funds. Table 2 shows the total money received, expended and remaining through December 2012 by source of funds.

Table 1. Monies Collected and Expended in 2012 by Source of Funds

Source of Funds	Money Collected	Money Expended
General Funds	\$0	\$0
In-Lieu Fund – MCWA Prepayments	\$103,576	\$103,576
State Indian Firming	\$0	\$0
Interstate Water Banking – Nevada¹		
Nevada Resource	\$1,964	\$0
Operating	\$687	\$0
Subtotal for Interstate	\$2,651	\$0
Shortage Reparations - NV	\$0	\$0
4¢ Ad valorem Tax²		
Maricopa County	\$0	\$8,387,340
Pinal County	\$0	\$679,016
Pima County	\$0	\$4,586,242
Subtotal for Ad valorem	\$0	\$13,652,598
Groundwater Withdrawal Fees		
Phoenix AMA	\$1,788,651	\$1,744,687
Pinal AMA	\$1,658,168	\$1,583,928
Tucson AMA	\$416,444	\$454,839
Subtotal for Withdrawal Fees	\$3,863,263	\$3,783,454
TOTAL	\$3,969,490	\$17,539,628

¹ Amount collected is interest and \$1914.43 in monies recovered from Lehman Brothers bankruptcy.

² Money expended by CAWCD to offset AWBA delivery and storage costs.

Table 2. Monies Collected and Expended through December 2012 and Monies Remaining Available

Source of Funds	Money Collected	Money Expended	Money Available ¹
General Funds	\$11,100,865	\$11,100,865	\$0
In-Lieu Fund - MCWA Pre-payments	\$4,735,070	\$4,735,070	\$0
State Indian Firming²	\$2,338,171	\$2,338,171	\$0
Interstate Water Banking-NV			
Pre-Amended Agreement	\$10,053,945	\$10,053,945	\$0
Nevada Resource ²	\$86,594,213	\$86,589,032	\$5,181
Operating	\$12,698,866	\$12,444,845	\$254,021
Subtotal for Interstate	\$109,347,024	\$109,087,822	\$259,202
Shortage Reparations - NV	\$2,999,748	\$2,999,748	\$0
4¢ Ad valorem Tax³			
Maricopa County ⁴	\$213,932,822	\$87,431,247	\$81,501,575
Pinal County	\$10,077,216	\$9,144,681	\$932,536
Pima County	\$42,714,667	\$40,152,327	\$2,562,340
Subtotal for Ad valorem	\$266,724,706	\$136,728,254	\$84,996,452
Groundwater Withdrawal Fees²			
Phoenix AMA	\$18,965,200	\$18,920,238	\$44,962
Pinal AMA	\$16,195,314	\$15,996,295	\$199,019
Tucson AMA	\$7,943,249	\$7,941,152	\$2,096
Subtotal for Withdrawal Fees	\$43,103,762	\$42,857,685	\$246,077
TOTAL	\$440,349,346	\$309,847,615	\$85,501,731

¹ Money remaining in AWB Fund or collected by CAWCD; includes monies committed for the 2013 Plan of Operation.

² Total money collected was decreased to reflect legislative transfers in CY 2004, CY 2005, CY 2009-2011.

³ Includes money collected and money expended by CAWCD to offset AWBA delivery and storage costs.

⁴ Total monies available was decreased to reflect the CAWCD Board of Directors resolution adopted May 2013 to transfer \$45 million to its Strategic Reserve Fund as part of the operation, maintenance and replacement costs of the project.

Long-term Storage Credits

The AWBA has established long-term storage credit accounts with ADWR for each AMA. After receiving the AWBA's annual reports, ADWR calculates and issues credits to the appropriate accounts. The AWBA receives credit for 95 percent of the stored water. After credits are issued to the account, AWBA staff allocates the credits to the appropriate sub-accounts based on source of funding. The number and distribution of credits for 2012 are listed in Table 3. Cumulative credits accrued by the AWBA through December 2012 are listed in Table 4.

Table 3. Number and Location of Long-term Storage Credits Accrued in 2012

Location and Funding Source		Long-term Storage Credits Accrued (acre-feet)
Phoenix AMA		
	4¢ <i>Ad valorem</i> Tax	58,533
	Groundwater Withdrawal Fee	15,379
	General Fund	0
	Indian Firming	0
	Shortage Reparations	0
	Interstate - Nevada	0
	AMA Total	73,912
Pinal AMA		
	4¢ <i>Ad valorem</i> Tax	6,091
	Groundwater Withdrawal Fee	13,101
	General Fund	0
	Indian Firming	0
	Shortage Reparations	0
	Interstate - Nevada	0
	AMA Total	19,192
Tucson AMA		
	4¢ <i>Ad valorem</i> Tax	29,184
	Groundwater Withdrawal Fee	3,216
	General Fund	0
	Indian Firming	0
	Shortage Reparations	0
	Interstate - Nevada	0
	AMA Total	32,399
Totals by Funding Source		
	4¢ <i>Ad valorem</i> Tax	93,808
	Groundwater Withdrawal Fee	31,695
	General Fund	0
	Indian Firming	0
	Shortage Reparations	0
	Interstate - Nevada	0
TOTAL		125,503

Table 4. Cumulative Total and Location of Long-term Storage Credits Accrued through December 2012

Location and Funding Source		Long-term Storage Credits Accrued (acre-feet)
Phoenix AMA		
	4¢ <i>Ad valorem</i> Tax	1,329,925
	Groundwater Withdrawal Fee	293,632
	General Fund	42,316
	Indian Firming	0
	Shortage Reparations	20,642
	Interstate Water Banking - Nevada	51,009
	AMA Total	1,737,523
Pinal AMA		
	4¢ <i>Ad valorem</i> Tax	187,465
	Groundwater Withdrawal Fee	394,896
	General Fund	306,968
	Indian Firming	0
	Shortage Reparations	60,507
	Interstate Water Banking - Nevada	439,851
	Other- (GSF Operator Full Cost Share)	14,125
	AMA Total	1,417,937
Tucson AMA		
	4¢ <i>Ad valorem</i> Tax	390,334
	Groundwater Withdrawal Fee ¹	98,788
	General Fund	54,546
	Indian Firming	28,481
	Shortage Reparations	1,227
	Interstate Water Banking - Nevada	109,791
	AMA Total	683,167
Totals by Source of Funds		
	4¢ <i>Ad valorem</i> Tax	1,907,724
	Groundwater Withdrawal Fee	787,317
	General Fund ²	403,830
	Indian Firming	28,481
	Shortage Reparations	82,375
	Interstate Water Banking – Nevada ³	600,651
	Other- (GSF Operator Full Cost Share)	14,125
	TOTAL	3,824,502

¹ Includes 234 acre-feet of credits purchased from the Tohono O'odham Nation pursuant to § 45-841.01.

² By resolution passed in 2002, the AWBA established on-river firming as the highest priority of use for credits accrued through expenditure of general fund appropriations. Pursuant to the AWBA Agreement to Firm with MCWA dated February 4, 2005, a total of 230,280 acre-feet of credits were transferred to the AWBA long-term storage subaccount for the MCWA in 2005. An additional 25,894 acre-feet of credits have been reserved under Exhibit C the Amended Agreement to Firm, dated December 8, 2010, for a total of 256,174 acre-feet. By resolution passed in 2008, the AWBA established a replacement account for 4th priority Colorado River M&I users.

³ Includes 50,000 acre-feet of credits transferred to SNWA.

Since inception, the AWBA has focused its efforts on developing long-term storage credits for firming purposes. The AWBA has identified 2,700,000 acre-feet of credits as a reasonable amount of credits to firm the CAP M&I subcontracts over the next 100 years. This volume is divided based on a pro-rata distribution by county based on CAP M&I subcontracts as follows: 58 percent Maricopa County, 32 percent Pima County, and 9 percent Pinal County.

The AWBA has also identified 420,000 acre-feet of credits as a reasonable amount of credits to firm the on-river communities over the next 100 years. In 2002, the AWBA adopted a resolution that

identified on-river firming as the highest priority of use for the general fund credits and established priorities for other uses (Indian settlements, etc.). Consequently, all or part of the general fund credits could be utilized to firm on-river M&I users. It should be noted that the AWBA will collect reimbursement for the replacement cost of credits used for on-river firming. In 2008, the AWBA executed Resolution 2008-1 that established a long-term storage credit replacement account for 4th priority Colorado River M&I users. As credits are used and replaced, these replacement credits will be placed in a separate replacement subaccount and earmarked for the entity that reimburses the AWBA for the replacement of those credits. Table 5 illustrates the progress made by the AWBA towards meeting its established goals.

Table 5 also identifies the estimated remaining costs for meeting the AWBA's goals and obligations. These estimates are developed based on the assumptions contained in the AWBA's Ten-Year Plan for 2014-2023 and are subject to potential shortages discussed under the recovery section. For obligations that are not met in the Ten-Year Plan, 2024 estimated costs were assumed when calculating the amount remaining to meet the goals.

As described in the Ten-Year Plan section of this report, most of the firming goals will be met during the next ten years. Those not met include the Tucson AMA and on-river M&I firming goals. Approximately 70 percent of the Tucson AMA firming goal will have been met by 2023. Since all of the *ad valorem* tax monies will have been expended by 2017, the AWBA will need to rely on withdrawal fees to meet the remainder of this firming goal. Because revenue from withdrawal fees is limited in the Tucson AMA (about \$400,000 per year), the firming goal would not be met until well beyond 2023. Therefore, estimated rates for 2024 were used to calculate the total remaining costs for the Tucson AMA firming goal. Estimated expenditures under the Ten-Year Plan total \$24 million: \$20 million in *ad valorem* tax monies and \$4 million in withdrawal fees. The cost to accrue the credits needed to meet the remaining firming goal (30%) are estimated at \$67 million and would be limited to withdrawal fees. The total estimated cost for meeting the Tucson AMA firming goal is \$91 million.

Likewise, because it is not known if, or when, the AWBA will receive general fund appropriations in the future, the same method was applied to calculate the remaining on-river firming costs. It was also assumed that storage for on-river firming purposes would be at GSFs.

Lastly, the remaining costs for meeting the Indian firming goals were estimated by assuming that because the M&I firming goals could be met using *ad valorem* taxes and only a portion of existing withdrawal fee credits from the Pinal AMA, all withdrawal fee credits accrued in the Phoenix and Pinal AMAs in the next ten years would be applied toward meeting these goals. Existing withdrawal fee credits in the Pinal AMA and credits accrued from storage at the Gila River Indian Irrigation and Drainage District (GRIDD) GSF, could be used to meet the remaining firming goal. Existing withdrawal fee credits from the Phoenix AMA could be used to meet the firming goal for future Indian settlements. Because funding has already been expended for these credits, they were not included in the calculation for remaining costs.

Table 5. Identified Uses of Long-term Storage Credits Accrued through December 2012 and Percentage of AWBA Goals Achieved

Location and Objective	Funding Source	Goal	Obligation	Non-Credit Goal/Oblig. Achieved	Credits Accrued (AF)	Percent Goal/Oblig. Achieved	Estimated Remaining Costs (\$ Million) ¹
Phoenix AMA M&I Firming Groundwater Mgmt ²	<i>Ad valorem</i> tax Withdrawal Fees	1,566,000 AF			1,329,925 293,632	85% 104%	\$47
Pinal AMA M&I Firming Groundwater Mgmt ²	<i>Ad valorem</i> tax Withdrawal Fees	243,000 AF			187,465 394,896	77% 240%	\$4
Tucson AMA M&I Firming Groundwater Mgmt ²	<i>Ad valorem</i> tax Withdrawal Fees	864,000 AF			390,334 93,167	45% 56%	\$20 \$71
On-River M&I Firming³	General Fund	420,000 AF			403,830	96%	\$3.4
Indian Settlements: GRIC Firming	Withdrawal Fees	350,000 AF ⁴	up to 15,000 AF/YR		0 ⁵	0%	\$12
Future Settlements	Withdrawal Fees	200,000 AF ⁴	up to 8,724 AF/YR		0 ⁵	0%	\$14
Federal Assistance ⁶ Tucson AMA	Appropriation Withdrawal Fees Cost of Services		\$3,000,000	\$3,000,000 \$2,338,171 \$630,490 \$31,339	34,102 28,481 5,621 n/a	100%	\$0
Southside Repl. Bank	Withdrawal Fees		15,000 AF Direct Delivery		4,000	27%	\$2
Interstate Water⁷ Banking – NV	Contract with Nevada		600,651 AF		600,651	100%	N/A
Other: Shortage Reparation -Nevada	Gifts, Grants, Donations	\$8,000,000		\$2,999,748	82,375	37%	\$5
Pinal Redirect Credits ⁸	n/a				14,125		

¹ Based on the ten-year plan and an assumed rate escalation of 4% for water storage costs after 2018

² Withdrawal fees could be utilized in addition to 4¢ *ad valorem* tax revenues for M&I firming if needed to reach firming goals.

³ By resolution passed in 2002, the AWBA established on-river firming as the highest priority of use for credits accrued through expenditure of general fund appropriations. Pursuant to the Agreement to Firm dated February 4, 2005, a total of 230,280 acre-feet of credits were transferred to the AWBA long-term storage subaccount for MCWA in 2005. An additional 25,894 acre-feet of credits have been reserved under Exhibit C the Amended Agreement to Firm, dated December 8, 2010, for a total of 256,174 acre-feet.

⁴ Based on estimates from the Indian Firming Study Commission Report dated January 6, 2006.

⁵ No credits have been dedicated for this purpose but Withdrawal Fee Credits could be used if a shortage were to occur.

⁶ Expenditures include \$14,883 and \$16,456 deducted for payment of cost of services for FY 08 and FY 09, respectively.

⁷ Pursuant to the Third Amended and Restated Agreement for Interstate Water Banking, storage on behalf of SNWA will be determined by the parties on an annual basis.

⁸ Credits accrued from AWBA water provided to Pinal AMA GSFs at full cost to the GSF operators. These credits are currently identified for use in the Tucson AMA.

The average annual cost for the AWBA to obtain one acre-foot of long-term storage credit for intrastate and interstate storage is presented in Tables 6a and 6b, respectively. Table 6a illustrates that the unit cost per credit for intrastate storage fluctuates yearly primarily based on water delivery and storage facility costs. For example, the significant increase beginning 2010 is due to CAWCD eliminating the incentive recharge cost structure.

Table 6a. Average Annual Cost for the AWBA to Obtain a Long-term Storage Credit for Intrastate Storage

Year	Credits ¹	Funds Expended	Average Cost (per acre-foot)	Ratio of GSF to USF
1997	296,987	\$6,387,000	\$21.51	85:15
1998	202,542	\$7,143,000	\$35.27	68:32
1999	232,142	\$8,733,000	\$37.61	68:32
2000	272,123	\$11,163,000	\$41.02	60:40
2001	275,406	\$10,893,590	\$39.55	62:38
2002	262,317	\$13,700,300	\$52.23	64:36
2003	200,168	\$11,077,666	\$55.34	47:53
2004	251,456	\$17,855,997	\$71.01	41:59
2005	85,782	\$5,615,201	\$65.46	58:42
2006	162,342	\$14,720,277	\$90.67	17:83
2007	245,221	\$14,589,390	\$59.49	37:63
2008	203,373	\$8,168,100	\$40.16	65:35
2009 ²	99,453	\$6,977,590	\$70.16	76:24
2010	181,214	\$26,027,947	\$143.63	21:79
2011	127,605	\$16,543,540	\$129.65	33:67
2012	125,503	\$17,314,052	\$137.96	42:58

¹ Information in this table is reconciled on an annual basis.

² Does not include credits purchased pursuant to § 45-841.01.

Table 6b illustrates the unit cost per long-term storage credit for interstate also fluctuates yearly. No interstate storage occurred in 2012.

Table 6b. Average Annual Cost for the AWBA to Obtain a Long-term Storage Credit for Storage on Behalf of Nevada

Year	Credits	Funds Expended	Average Cost (per acre-foot)	Ratio of GSF to USF
2002	61,098	\$8,617,393	\$141.04	100:0
2003	50,000 ¹			
2004	14,162	\$2,899,647	\$204.75	66:34
2005	111,805	\$25,723,366	\$230.07	65:35
2006	175,569	\$35,386,306	\$201.55	68:32
2007	114,886	\$21,853,906	\$190.22	91:09
2008	None	None	\$0	0:0
2009	55,252	\$10,781,853	\$195.14	45: 55
2010	17,879	\$3,825,350	\$213.96	0:100

¹ Long-term Storage Credits transferred from CAWCD.

Long-term Storage Credits Distributed or Extinguished by the Authority

The long-term storage credits developed by the AWBA to date have been identified for five purposes:

- Firming CAP M&I entitlements;
- Firming the post-1968 M&I entitlements for entities outside the CAP service area;
- Firming for the Federal obligation under the AWSA;
- Fulfilling the water management objectives set forth in Chapter 2 of Title 45 (Arizona Revised Statutes); and
- Interstate water banking purposes pursuant to agreements with Nevada.

Credits created by the AWBA for firming purposes may be distributed or extinguished when the Colorado River system is deemed to be in a shortage or if there is an operational disruption of the CAP. There were no shortages or unplanned CAP operational problems, therefore, no credits were distributed or extinguished for these purposes in 2012. No credits were distributed or extinguished in 2012 for water management purposes.

Under the 1999 amendments to the AWBA legislation, the AWBA is authorized to develop credits with monies collected pursuant to water banking services agreements. In 2012, no credits were developed or distributed under such agreements.

The AWBA did not recover or distribute any credits in 2012.

Ten-Year Plan

Introduction

Pursuant to A.R.S. §45-2426, the AWBA is required to prepare a Ten-Year Plan. The Ten-Year Plan must include a description of any water banking activities the AWBA intends to undertake in addition to the three primary AWBA functions of firming for M&I supplies, assisting in Indian water rights settlements, and fulfilling state water management objectives. The Ten-Year Plan is presented in Table 7. The Ten-Year Plan must also provide an analysis of the AWBA's ability to complete those activities. This analysis is provided in Table 8. The Ten-Year Plan is not a guarantee of future storage activities and is completed for planning purposes only. In any given year, the AWBA's activities are governed by the annual Plan of Operation. This Ten-Year Plan is projected to create over 630,000 acre-feet of long-term storage credits.

The Ten-Year Plan (Table 7) analyzes activity for the period 2014-2023 and was derived using the information found in Appendices A through J. AWBA accounting for previous years can be found in the 2011 Annual Report and 2013 Plan of Operation. The plan is an important tool to be utilized in development of 1) the next year's annual Plan of Operation and 2) policy guidelines for future AWBA activities. AWBA staff developed the Ten-Year Plan based on the following guiding principles:

1. The Ten-Year Plan covers a ten-year time period beginning with the next calendar year. For example, this Ten-Year Plan covers the time period 2014-2023.
2. The Ten-Year Plan incorporates current priorities and limitations of the AWBA. Specifically, this Plan maximizes the amount of water stored in the Tucson AMA, while strategically storing water for future recovery, in order to move closer to firming goals in Tucson.
3. The Ten-Year Plan incorporates CAWCD's adopted 2013-2014 rate schedule.
4. The Ten-Year Plan assumes there are no legislative transfers from the AWB Fund or transfers from the water storage tax funds held by CAWCD.
5. The Ten-Year Plan assumes CAWCD's Procedure to Distribute Excess Water from 2010 through 2014 is extended through the Ten-Year Plan period.

Table 7. Ten-Year Plan

ARIZONA WATER BANKING AUTHORITY – Ten-Year Plan																
2014 – 2023																
(Acre-feet)																
	(a)	(b)		(c)		(d)		(e)		(f)		(g)				
YEAR	CAP Water Available for AWBA	CAP M&I Firming (4¢ tax)		Water Management (Withdrawal Fees)		Appropriation from General Fund		Shortage Reparations (\$8 Million)		Indian Settlement		Interstate Banking				
		Delivery	Credits	Delivery	Credits	Delivery	Credits	Delivery	Credits	Delivery	Credits	Water Available	Delivery	Credits	ICUA	Remaining Credits
Pre-Plan ^(h)	n/a		1,924,870		594,160		403,830		91,306		248,883			600,651		600,651
2014	70,900	55,795	51,890	1,000	0	0	0	8,237	7,661	5,868	5,457	0	0	0	0	600,651
2015	64,600	46,109	42,881	1,000	0	0	0	5,139	4,779	12,352	11,488	0	0	0	0	600,651
2016	45,800	32,796	30,500	1,000	0	0	0	4,924	4,579	7,080	6,584	0	0	0	0	600,651
2017	112,500	76,235	70,898	8,707	7,168	0	0	0	0	27,558	25,629	0	0	0	0	600,651
2018	102,100	77,337	71,924	2,895	1,762	0	0	0	0	21,868	20,337	0	0	0	0	600,651
2019	83,200	61,703	57,383	2,822	1,695	0	0	0	0	18,675	17,368	0	0	0	20,000	580,651
2020	64,200	45,960	42,743	2,753	1,630	0	0	0	0	15,487	14,403	0	0	0	30,000	550,651
2021	57,500	40,652	37,806	2,686	1,568	0	0	0	0	14,162	13,171	0	0	0	40,000	510,651
2022	50,800	35,324	32,851	2,621	1,508	0	0	0	0	12,855	11,955	0	0	0	40,000	470,651
2023	38,100	24,878	23,136	2,559	1,450	0	0	0	0	10,663	9,917	0	0	0	40,000	430,651
TOTAL	689,700		2,386,884		610,940		403,830		108,326		385,191			600,651	170,000	

(a) See Appendix B.

(b) See Appendix D.

(c) See Appendix E. Includes direct delivery of 1,000 acre-feet of water each year delivered to the Southside Replenishment Bank that does not result in credits being accrued.

(d) See Appendix F.

(e) See Appendix G.

(f) See Appendix H. A.R.S. §45-2491(B)(2) allows for the use of withdrawal fees after legislative appropriations for Indian firming have been expended. Withdrawal fee credits accrued in the Phoenix and Pinal AMAs could be utilized to meet this obligation. The pre-plan amount includes credits accrued from storage at the GRIIDD GSF and withdrawal fee credits accrued in the Phoenix and Pinal AMAs since 2008. The State's Indian firming obligation is estimated at 550,000 acre-feet. In addition, 34,102 acre-feet of credits have been accrued to meet the State's obligation under Section 306 of the AWSA (\$3 million for Federal assistance).

(g) See Appendix I.

(h) Cumulative credit totals for 1997-2012 are actual; 2013 credits are estimated based on projected deliveries.

Table 8. AWBA Percentage of Goals Achieved through 2023

Location and Objective	Funding Source	Goal		Obligation	Non-Credit Goal/Oblig. Achieved	Credits ¹ Accrued (AF)	Percent Goal/Oblig. Achieved
Phoenix AMA							
M&I Firming ²	Ad valorem tax	1,566,000	AF			1,671,505	107%
Groundwater Management ³	Withdrawal Fees					75,495	
Pinal AMA							
M&I Firming	Ad valorem tax	243,000	AF			224,540	92%
Groundwater Management ³	Withdrawal Fees					218,652	
Tucson AMA							
M&I Firming	Ad valorem tax	864,000	AF			490,838	57%
Groundwater Management ³	Withdrawal Fees					112,262	70%
On-River M&I Firming ⁴	General Fund	420,000	AF			403,830	96%
Indian Settlements ⁵ :							
GRIC Firming	Withdrawal Fees	350,000	AF	up to 15,000 AF/YR		350,000	100%
Phoenix AMA						88,313	
Pinal AMA						261,687	
Future Settlements	Withdrawal Fees	200,000	AF	up to 8,724 AF/YR		200,000	100%
Federal Assistance ⁶				\$3,000,000	\$3,000,000	34,102	100%
Tucson AMA	Appropriation				\$2,338,171	28,481	
	Withdrawal Fees				\$630,490	5,621	
	Cost of Services				\$31,339	n/a	
Southside Replenishment Bank	Withdrawal Fees			15,000 AF Direct Delivery		15,000	100%
Interstate Water Banking - Nevada ⁷	Contract with Nevada			600,651 AF		600,651	100%
Other:							
Shortage Reparations-Nevada	Gifts, Grants, Donations	\$8,000,000			\$8,000,000	108,326	100%
Pinal Redirect Credits ⁸	n/a					14,125	

¹ 1997-2012; actual credits through 2012 and estimated credits for 2013 based on projected deliveries.

² 100% of the numerically defined M&I firming goal for the Phoenix AMA is met in 2020.

³ M&I firming has been statutorily identified as a water management objective. Utilizing withdrawal fee credits for this purpose, 70% of Tucson AMA firming goal will be met by 2023.

⁴ By resolution passed in 2002, AWBA established on-river firming as the highest priority of use for credits accrued through expenditure of general fund appropriations. A total of 256,174 acre-feet of credits have been reserved pursuant to AWBA's contract with MCWA.

⁵ A.R.S. §45-2491(B)(2) allows for use of withdrawal fees after legislative appropriations for Indian firming have been expended. By utilizing credits stored at GRIIDD and credits accrued from withdrawal fees in the Pinal and Phoenix AMAs in this Ten-Year Plan, 68% of the GRIC and 57% of the future settlement firming goals are estimated to be met in 2023. Existing withdrawal fee credits from Pinal and Phoenix AMAs are used to meet remainder of firming goals for GRIC and future settlements, respectively.

⁶ Based on estimates from Indian Firming Study Commission Report dated January 6, 2006. AWBA is required to firm up to 23,724 AF/year during shortages. If firming goal has been underestimated, additional acre-feet stored using withdrawal fee credits are available in the Pinal and Phoenix AMAs to meet this obligation.

⁷ Pursuant to Third Amended and Restated Agreement for Interstate Banking, additional water could be stored in future but would not be in form of an obligation, but rather mutually agreed upon.

⁸ Credits currently identified for use in Tucson AMA would meet 1.6% of the firming goal.

Ten-Year Plan Components

The following components are recognized to be important in developing the Ten-Year Plan. Inclusion or exclusion of a specific component was based on whether the component's effect could be predicted over the planning period, the magnitude of the effect and whether the component was anticipated to be an issue. Three components are always considered: water availability, funding and storage capacity. Other components specific to this plan include: water management objectives, Indian settlements, interstate banking and long-term storage credit recovery.

1. Water Available to the AWBA

The volume of water available to the AWBA has been decreasing since 2010 when over 200,000 acre-feet were available to the AWBA. By 2012, the AWBA would store just over 130,000 acre-feet. In its 2013 Plan of Operation, the AWBA expects to store slightly over 50,000 acre-feet just 25% of the volume stored in 2010 and only 13% of the volume stored in the AWBA's highest storage year in 2007. The last Ten-Year Plan showed CAP water available to the AWBA decreasing but only to around 66,000 acre-feet in the lowest expected year (i.e. 2016) and increasing to over 150,000 acre-feet in the highest expected year (i.e. 2017) when the Excess Agricultural Pool decreases to 300,000 acre-feet. This Ten-Year Plan projects an even lower low volume in 2023 (i.e. below 40,000 acre-feet) and a lower high volume in 2017 (i.e. just over 110,000 acre-feet). This change in volume is largely due to a more rapid build-up of contract water use by Indian customers.

The new CAWCD 2013-2014 rate schedule reflects a significant increase over previous rate schedules. This increase was caused by higher Navajo Generating Station energy costs and lower natural gas prices, coupled with lower liquidity in the energy surplus market. Because of rate increases, this Ten-Year Plan assumes the volume of water expected to be stored will be lower than under previous rate schedules. While the impact of the increased rates on demand has not been analyzed, however, some speculate that additional water could become available to the AWBA as users storing in the past are affected by price elasticity. If this occurs, because storage in the Tucson AMA is already maximized, the Ten-Year Plan would assume excess volumes will be shared between Pinal and Maricopa County until funds in Pinal are exhausted. After which, any remaining water will be stored in Maricopa.

2. Funding

Funding for water storage that benefits Arizona (intrastate storage) comes from three sources: *ad valorem* taxes, groundwater withdrawal fees and general fund appropriations. There are restrictions on how each funding source can be used. In the past, the AWBA received funding from the Southern Nevada Water Authority for interstate water banking and shortage reparation. For the first time, this Ten-Year

Plan utilizes interest accumulated from *ad valorem* taxes to purchase and store water for M&I firming.

Ad Valorem Tax

Pursuant to A.R.S. §48-3715.03(B), 4¢ *ad valorem* taxes levied and collected by CAWCD that are not deposited in the CAWCD fund, shall be deposited into subaccounts held by the AWBA: one for each of the three counties in which the taxes were collected. CAWCD has not deposited monies collected into these AWBA subaccounts since 2003. The AWBA expended all of the funds that remained in the subaccounts for Pinal and Pima Counties in 2004 and Maricopa County in 2007. CAWCD has however offset AWBA water delivery and storage costs using the 4¢ *ad valorem* tax held in CAWCD accounts. This Ten-Year Plan relies on the continuation of CAWCD offsetting the AWBA's costs. It is important to note that A.R.S. §48-3715.02, which provides CAWCD the authority to levy the *ad valorem* tax for water storage, will be repealed effective January 2, 2017. Therefore, this Ten-Year Plan does not include collection of the *ad-valorem* tax beyond 2016.

Additionally, in May of 2013, the CAWCD Board resolved to replenish a shortfall to its strategic reserve fund by drawing \$45 million from the 4¢ *ad valorem* tax fund for Maricopa County. The \$45 million was part of the roughly \$52 million that was collected pursuant to CAWCD's 4¢ tax resolutions adopted for tax years 2010 through 2012. The monies available in this Ten-Year Plan have been adjusted accordingly.

Finally, this plan assumes interest from *ad valorem* tax monies held by CAWCD (i.e. funds historically set aside for AWBA Administration purposes) for Pima and Pinal Counties are used to store water for these counties once the principal amount is exhausted. Based on the Plan, there will still be Maricopa County *ad valorem* tax monies and interest remaining at the end of the Ten-Year Plan.

Groundwater Withdrawal Fees

Pursuant to A.R.S. §45-611(3), the Director of Water Resources levies and collects a groundwater withdrawal fee for water banking purposes in the three AMAs equal to \$2.50 per acre-foot per year. This Plan assumes \$3.6 million in withdrawal fees is collected annually with \$1.7 million collected in the Phoenix AMA, 1.5 million collected in the Pinal AMA and \$400,000 collected in the Tucson AMA¹. The AWBA can utilize withdrawal fees to firm M&I CAP subcontract supplies, to implement the settlement of water rights claims by Indian communities in Arizona and to meet the water management objectives of the AMAs in which the fees were collected. In addition, withdrawal fees collected in the Pinal AMA can be used to meet the AWBA Southside Replenishment Bank (SSRB) obligation. Upon being distributed or

¹ Withdrawal fees collected varies from year to year. The assumed collections for the Ten-Year Plan are based on an average of collections over the 2009 to 2013 time frame.

extinguished, these credits can only be used for the benefit of the AMA in which the monies were collected.

To this end, credits accrued using withdrawal fees in the Tucson AMA are assumed to be applied to M&I firming in that AMA. The Ten-Year Plan further assumes withdrawal fees credits accrued in the Phoenix and Pinal AMAs, including those accrued at the GRIID GSF, could be applied to Indian firming obligations if the AWBA does not receive a general fund appropriation for this purpose. Finally, this Plan utilizes withdrawal fees to purchase CAP water for delivery to the SSRB.

AWBA General Fund Appropriation

Pursuant to A.R.S. §45-2423.B.10, the AWBA can submit a request for a general fund appropriation each year. While the AWBA may request general fund appropriations during this planning period, receipt of an appropriation cannot be expected. Consequently, the Ten-Year Plan does not include the expenditure of general fund appropriations. Absent future general fund appropriations, any storage needed to meet the AWBA's Indian firming obligation might require the use withdrawal fees.

Funding for Interstate Banking

Pursuant to earlier interstate water banking agreements, 600,651 acre-feet of credits are already held in the Southern Nevada Water Authority (SNWA) account. SNWA paid nearly \$123 million to date for these credits. Under the newly executed Third Amended and Restated Agreement for Interstate Water Banking, the AWBA no longer has an obligation to accrue future long-term storage credits to be held in the SNWA account. As in the original agreement, all future delivery and storage costs are born by SNWA and are on a "pay-as-you-go" basis. Pursuant to the new agreement, SNWA will pay \$20,000 per year for continuing administrative services in years when the AWBA does not deliver and store water. These revenues are assumed to offset the AWBA's administrative costs.

Shortage Reparation Funds

Pursuant to the Arizona-Nevada Shortage-Sharing Agreement, Nevada will provide to the AWBA \$8 million in order to assist Arizona in offsetting impacts that may occur during the "Interim Period". The Interim Period begins on December 13, 2007, the date the Secretary of the Interior issued the Record of Decision for the Colorado River Interim Guidelines for Lower Basin Storage and the Coordinated Operation for Lake Powell and Lake Mead, and ends on December 31, 2025. By the end of 2013, the AWBA will have expended approximately \$4.5 million of these funds for purchase and storage of CAP water. While a final plan for the use of the credits accrued using these funds has not yet been adopted by the Authority, expenditure of the remaining \$3.5 million has been included in this Ten-Year Plan. In the Ten-Year Plan, expenditure of these funds has been focused in the Tucson AMA in order to

distribute use of the funds among the three AMAs since funds have already been expended in the Phoenix and Pinal AMAs.

3. Storage Partners and Storage Capacity

The AWBA currently has nine water storage permits for GSFs with a total permitted storage capacity of 421,547 acre-feet per year. Storage at these facilities under this Ten-Year Plan is restricted due to a limited volume of capacity made available to the AWBA because of local priorities on where to store water and storage by other GSF partners. Tucson AMA interests requested that any water available for the Tucson AMA be stored at certain USFs before considering local GSFs.

All of the facility permits associated with the GSFs will expire during this Ten-Year Plan. Any difficulty in obtaining new permits could impact the capacity available to the AWBA. However, because impacts of this nature cannot be predicted, this Ten-Year Plan assumes the permits will be renewed¹. The AWBA has renewed water storage agreements with its GSF partners. The new agreements will expire December 31, 2021. The Ten-Year Plan assumes the agreements will be renewed and that the AWBA will continue to participate with these GSF partners throughout this Ten-Year Plan.

The AWBA currently has nine water storage permits for USFs with a total permitted storage capacity of 561,000 acre-feet per year. Storage capacity available to the AWBA, primarily at CAWCD operated facilities, has decreased over the last few years because of storage by other participants. Storage capacity could continue to decline as additional entities contract with CAWCD and are issued water storage permits by ADWR. However, the actual capacity used by these entities could be limited by the availability of water to those entities.

In addition, four of the USF permits will expire within this Ten-Year Plan. Like the GSF permits, any difficulty in obtaining new permits could impact the capacity available to the AWBA. However, because impacts of this nature cannot be predicted, this Ten-Year Plan assumes the permits will be renewed.

The AWBA's water storage agreement with the Metropolitan Domestic Water Improvement District for storage at the Avra Valley Recharge Project will expire on December 31, 2015. Likewise, the AWBA's Master Water Storage Agreement with CAWCD for storage at its six facilities will expire December 31, 2016. Renewal of these agreements is anticipated therefore storage at these facilities was included for the full Ten-Year planning period.

The AWBA updated its Storage Facility Inventory in March of 2011 and used it to develop this Ten-Year Plan. Since the inventory was updated, no additional permit

¹ The facility permit for the Hohokam Irrigation District expired on October 1, 2012. The District applied for a new permit and can continue to use its existing permit until a new permit is issued or the permit is denied. The Ten-Year Plan assumes the District will secure a new permit.

capacity has been developed that would increase the capacity available to the AWBA.

On April 18, 2013, the CAWCD Board adopted the CAP Recharge Facility Priority policy (see Appendix J) that establishes a clear method for scheduling recharge capacity at CAWCD USFs and that communicates priorities that will be used to resolve conflicts for available capacity that may arise in the scheduling process. In that policy, the AWBA shares priority with the CAGRDR replenishment reserve and the United States, after capacity is met for entities with contractual rights to store at CAP facilities and after the CAGRDR meets its annual replenishment obligation.

Appendix C describes the storage partners, storage permits, and capacity available for use by the AWBA. This plan identifies 155,000 acre-feet of storage capacity available to the AWBA at GSFs and 166,000 acre-feet of capacity available to the AWBA at USFs. Therefore, the Ten-Year Plan has sufficient storage capacity to store the amount of water assumed to be available to the AWBA under CAWCD's policy for distributing Excess CAP water. However, it is possible the location of AWBA storage could be affected in the future.

4. Water Management Objectives

The early activities of the AWBA were focused on achieving the goal of full utilization of Arizona's Colorado River allocation. With the exception of 2005, Arizona has been meeting this goal since 2002. Another primary objective of the AWBA is meeting the numerically defined M&I firming goals. By the end of 2013, the AWBA anticipates having accrued over 1.9 million acre-feet of credits for that purpose. For the Pinal and Phoenix AMAs, the volume stored to date is around 80 to 85% of the numerically defined goals for those AMAs. Progress toward meeting the Tucson AMA goal, however, continues to lag significantly behind with only 57% of the goal achieved by 2013 assuming withdrawal fee credits are used in addition to 4¢ *ad valorem* tax credits.

Even with considerably less water available from CAP, this Ten-Year Plan projects the AWBA will store enough water to meet 93% of the numerically defined goal in the Pinal AMA and 107% of the numerically defined goal in the Phoenix AMA using 4¢ *ad valorem* tax monies alone. If credits accrued using withdrawals fees are included, the AWBA expects to exceed the numerically defined goal for the Pinal AMA as well during the Ten-Year Plan. Except for the 5,621 acre-feet of withdrawal fee credits set aside for meeting the State's obligation to the Federal government under the AWSA, the AWBA has not assigned any withdrawal fee credits to any of its stated purposes to date.

For the Tucson AMA, including withdrawal fees, the AWBA expects to only reach 70% of the numerically defined goal for the Tucson AMA. Because the AWBA is further behind in achieving its goal for the Tucson AMA than the other AMAs, the AWBA directed staff to focus on storing as much water as possible in the Tucson

area. Other water management objectives have also become more important in the Tucson AMA over time. Specifically, Tucson area interests have expressed concerns about where the AWBA is storing water relative to future recovery. To meet this concern, AWBA staff, after consulting with Tucson area interests, developed a strategy to store water at Tucson Water's SAVSARP as a first priority, followed by the Pima Mine Road Recharge Project, followed by the Avra Valley Recharge Project before storing water at the Lower Santa Cruz Recharge Project or any of the GSFs located in the AMA.

5. Participation in Indian Settlements

One objective of the AWBA is assisting with the settlement of water rights claims by Indian communities within Arizona. The State of Arizona has a 100-year firming obligation under the Arizona Water Settlements Act. The AWBA also has statutorily mandated responsibilities for the SSRB.

This Ten-Year Plan includes a component for meeting the State's Indian settlement firming obligation. While the AWBA may request appropriations during this Ten-Year Plan, future appropriations from the Legislature cannot be expected. As shown in Table 8, withdrawal fee credits, already accrued in the Phoenix and Pinal AMAs, could be used to meet this obligation while still maintaining credits for other water management purposes. This includes credits that were previously accrued from water stored at the GRIIDD GSF. The AWBA retains full rights to the credits developed at the GSF until such time the credits are dedicated specifically for meeting the State's Indian firming obligation.

This Ten-Year Plan also includes a component for meeting the initial SSRB obligation of 15,000 acre-feet. The AWBA will have delivered 5,000 acre-feet for this purpose by the end of 2013 and has identified an additional 10,000 acre-feet of deliveries under this plan, at a rate of 1,000 acre-feet each year. Withdrawal fees collected in the Pinal AMA are used to meet this obligation.

6. Interstate Banking

In May of 2013, the AWBA, SNWA and the CRCN signed the Third Amended and Restated Agreement for Interstate Water Banking. To date, 600,651 acre-feet of credits are already held in the SNWA account. SNWA paid nearly \$123 million to date for these credits and their financial obligation has been met. Under the new agreement, the AWBA no longer has an obligation to accrue future long-term storage credits to be held in the SNWA account.

Also under the new agreement, the parties can agree to future accrual of long-term storage credits including authorizing the use of Nevada's unused apportionment as the source water. Existing credits must be recovered by December 31, 2063. Future credits must be recovered within 50 years of the date of storage with the

oldest credits recovered first. The agreement terminates when all credits (i.e. existing and future) have been recovered.

Because water available to CAP is especially low during this planning period, the Ten-Year Plan assumes no storage for Nevada. If additional water becomes available and Arizona's uses are met, then the AWBA and SNWA can agree to accrue long-term storage credits for Nevada. If unused apportionment from Nevada becomes available, then the AWBA would need to consider available capacity.

7. Shortages and Recovery

The water supply for this Ten-Year Plan includes only normal year deliveries and does not include any shortage year deliveries. ADWR and CAWCD staff work cooperatively on long-range shortage projections. Model analyses based on Reclamation's Colorado River System Simulation model indicate that by the end of the ten years there is approximately a one-in-four chance (25 percent probability) that shortages to Arizona may occur. Using Arizona's assumptions in the model, the probability of shortage could be reduced to approximately 10-15 percent.

Under CAWCD's Procedure to Distribute Excess Water in 2010 through 2014, shortages would first be applied to the M&I and Other users in the Excess pool. Absent this policy, the AWBA has the lowest priority for CAP water so any reduction in CAP supplies would impact the AWBA first.

Specific to classes of water users served by the AWBA, the earliest recovery event could be in 2020 when modeling predicts a 2% probability of shortage resulting in an Indian firming obligation of about 10,000 acre-feet. This probability increases in 2021 to 7%, to 8% in 2022 and to 10% in 2023 with the volume ranging from 1,000 to 11,000 acre-feet. For on-river impacts, the modeling shows a probability of a shortage of 3% in 2021 through 2023 with expected impacts of around 1,200 acre-feet. For M&I Priority firming, the modeling shows a probability of shortage of 9%, but not until 2033, with volumes around 4,000 acre-feet.

The AWBA stores water for future recovery for the following classes of users: on-river M&I users, NIA water being delivered pursuant to Indian settlements, Priority 4 M&I subcontract users, and interstate banking for Nevada.

While the probability of shortage impacts is remote during this plan, if a shortage resulted in a firming obligation, NIA water delivered pursuant to Indian settlements would likely be affected first. In such case, CAP could consider reducing the Excess CAP supply available for other purposes and deliver water directly to the affected customers (i.e. Indian communities). On-river M&I priority users would be a close second. Recovery would not likely be needed to firm CAP M&I supplies because there should be enough lower priority CAP water to absorb any shortage to CAP during the next ten years. However, absent shortages, the only recovery planned for this Ten-Year Plan is for interstate purposes.

This Ten-Year Plan assumes that SNWA will request ICUA beginning in 2019 pursuant to the Third Amended and Restated Agreement for Interstate Water Banking. This agreement authorizes Nevada to request development of ICUA, as follows: in the initial year, an amount not exceeding 20,000 acre-feet; the second year, an amount not exceeding 30,000 acre-feet and in all subsequent years, an amount not exceeding 40,000 acre-feet. This Plan is not intended to identify the recovery mechanisms for developing ICUA. However, CAWCD, ADWR and the AWBA are currently developing a general recovery plan which would include the development of ICUA. This plan is anticipated to be in place prior to the first request for ICUA.

Conclusion

The Ten-Year Plan is intended to serve as a guide to assist the AWBA in the development of its Annual Plan of Operation in which the AWBA is required to plan its activities for the following calendar year. As part of the Annual Report, the Ten-Year Plan is reviewed and updated annually. Therefore, it is possible that the Ten-Year Plan may change significantly depending on the goals set by the AWBA and the funding and water supply available to the AWBA. Several conclusions that could be reached given this Ten-Year Plan are:

- 1) Approximately 630,000 acre-feet of credits could be created as a result of this Plan.
- 2) Water availability could be a limiting factor in this planning period and is most limiting in 2016 and 2023.
- 3) Water availability may prove unpredictable for various reasons. If more water becomes available to the AWBA due to increases in costs that impact other CAP customers, the AWBA will be able to store additional water in the Phoenix AMA. If there is less water available, the AWBA can evaluate opportunities for acquiring other sources of water for storage such as reclaimed water.
- 4) Without the continuation of the 4¢ *ad valorem* tax revenues, funding becomes a limiting factor in both Pinal and Pima Counties.
- 5) At the end of the Ten-Year Plan, Maricopa County is projected to have revenues remaining in its 4¢ *ad valorem* tax fund.
- 6) The numerically defined goal for the Phoenix AMA is expected to be attained during this planning period.
- 7) The numerically defined goal for the Pinal AMA is attainable during the planning period if withdrawal fee credits are applied to this objective.
- 8) The numerically defined goal for the Tucson AMA is not attainable during the planning period.
- 9) Absent future appropriations, withdrawal fees will become the principle source of funding for Indian firming.

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- 10) Unused withdrawal fees will be exhausted in the Pinal and Tucson AMAs by 2017; starting in 2018 withdrawal fees will be collected and spent almost immediately.
- 11) The initial Southside Replenishment Bank is fully subscribed by the end of the Ten-Year Plan.
- 12) The region is moving closer to shortage conditions or conditions where recovery could be triggered. If recovery is triggered, then Indian obligations will be impacted first followed closely by On-River obligations.
- 13) Interstate storage using Arizona's entitlement is unlikely during this planning period. There is, however, a possibility SNWA will request ICUA.

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APPENDICES

APPENDIX A			
Colorado River Water Deliveries for Water Banking Purposes for Calendar Year 2012 by Partner and Active Management Area			
PHOENIX AMA	Partner	Quantity of Water (Acre-feet)	
		Intrastate	Interstate
	Tonopah Desert Recharge Project	46,817	0
	Superstition Mountains Recharge Project	2,386	0
	New Magma Irrigation & Drainage District	23,866	0
	Queen Creek Irrigation District	4,957	0
	<i>Intrastate/Interstate AMA Subtotal</i>	78,026	0
	<i>Phoenix AMA Subtotal</i>	78,026	
PINAL AMA	Central Arizona Irrigation & Drainage District	8,246	0
	Hohokam Irrigation & Drainage District	3,670	0
	Maricopa-Stanfield Irrigation & Drainage District	8,670	0
	Southside Replenishment Bank	1,000	0
	<i>Intrastate/Interstate AMA Subtotal</i>	21,586	0
	<i>Pinal AMA Subtotal</i>	21,586	
TUCSON AMA	Ara Valley Recharge Project	774	0
	Lower Santa Cruz Recharge Project	11,255	0
	CAVSARP	51	0
	SAVSARP	15,532	0
	Cortaro-Marana Irrigation District	4,097	0
	Kai Farms – Red Rock	1,851	0
	BKW Farms	200	0
	Pima Mine Road	601	0
	<i>Intrastate/Interstate AMA Subtotal</i>	34,361	0
	<i>Tucson AMA Subtotal</i>	34,361	
TOTAL INTRASTATE & INTERSTATE DELIVERIES		133,973	0
TOTAL DELIVERIES		133,973	

Appendix B						
CAP Delivery Schedule						
(Acre-Feet)						
Year	Total CAP Deliveries ¹	Use By Sector			Banking Pool ⁵	
		M&I ²	Indian ³	Ag ⁴	CAGR D	AWBA
2014	1,565,000	662,600	419,700	400,000	11,800	70,900
2015	1,565,000	676,200	413,400	400,000	10,800	64,600
2016	1,560,000	695,500	411,100	400,000	7,600	45,800
2017	1,555,000	714,900	408,900	300,000	18,700	112,500
2018	1,550,000	734,300	406,600	300,000	17,000	102,100
2019	1,550,000	753,600	404,300	300,000	13,900	83,200
2020	1,550,000	773,000	402,100	300,000	10,700	64,200
2021	1,550,000	783,100	399,800	300,000	9,600	57,500
2022	1,550,000	793,200	397,500	300,000	8,500	50,800
2023	1,550,000	810,200	395,300	300,000	6,400	38,100
¹ Based on average deliveries and remaining use of SRP exchange water						
² Includes M&I use of subcontracts, excess, and federal water leased, exchanged or assigned to M&I users						
³ Includes on & off-reservation CAP contract deliveries for Indian uses (including recharge)						
⁴ Ag Settlement Pool Water						
⁵ Based on a planning assumption that CAWCD's current Access to Excess policy is extended						

APPENDIX C					
STORAGE FACILITIES AVAILABLE TO THE AWBA (as used in the Ten-Year Plan)					
Name of Facility ¹	Facility Permit Expiration	Facility Permitted Capacity (AF)	Capacity Available to AWBA ² (AF)	Year Water Last Stored	Volume of Water Last Stored (AF)
PHOENIX – GSF³					
Queen Creek Irrigation District	Dec-15	28,000	7,000	2012	4,957
New Magma Irrigation & Drainage District	Jul-17	54,000	0	2012	23,866
Subtotal for Phoenix AMA - GSF		82,000	7,000		
PHOENIX – USF					
Agua Fria Recharge Project	May-19	100,000	5,000	2010	2,604
Hieroglyphic Mountains Recharge Project	Dec-21	35,000	5,000	2010	5,002
Tonopah Desert Recharge Project	Sep-25	150,000	100,000	2012	46,817
Superstition Mountains Recharge Project ⁵	Jan-28	56,500	10,000	2012	2,386
Subtotal for Phoenix AMA - USF		341,500	120,000		
PINAL – GSF					
Central Arizona Irrigation & Drainage District	Dec-17	110,000	60,000	2012	8,246
Hohokam Irrigation & Drainage District ⁴	Oct-12	55,000	20,000	2012	3,670
Maricopa-Stanfield Irrigation & Drainage District	Dec-19	120,000	60,000	2012	8,670
Subtotal for Pinal AMA - GSF		285,000	140,000		
TUCSON – GSF					
BKW Farms	Sep-14	14,316	1,000	2012	200
Cortaro-Marana Irrigation District	Nov-13	20,000	5,000	2012	4,097
Kai-Farms – Red Rock	Nov-16	11,231	2,000	2012	1,851
Subtotal for Tucson AMA - GSF		45,547	8,000		
TUCSON – USF					
Avra Valley Recharge Project	Mar-18	11,000	1,000	2012	774
CAVSARP	Dec-28	100,000	0	2012	51
Lower Santa Cruz Recharge Project	Feb-19	50,000	25,000	2012	11,255
Pima Mine Road Recharge Project	Sep-20	30,000	5,000	2012	601
SAVSARP	Jan-28	60,000	15,000	2012	15,532
Subtotal for Tucson AMA - USF		251,000	46,000		
ALL AMAs - GSF		412,547	155,000		
ALL AMAs - USF		592,500	166,000		

¹ As additional facilities are developed, they will be included in future plans.

² This does not reflect the actual “permitted” volume for these facilities; instead for the purposes of this plan, staff relied on average historical storage volumes and potential for future storage. Capacity available to the AWBA at the Avra Valley Recharge Project is based on the operator’s estimated annual averages for the Ten-Year Planning period.

³ The AWBA also holds a water storage permit at Tonopah Irrigation District GSF (15,000 AF), however use of the facility was not considered significant in this Ten-Year Plan.

⁴ Permit renewal application pending with ADWR.

⁵ Phase one of the facility is permitted for 25,000 AF per year.

APPENDIX D							
Credits Developed for M&I Firming Utilizing the 4¢ Tax ¹							
(Acre-feet)							
PHOENIX AMA ²		Groundwater Savings			Underground Storage		
	Year	Capacity Available ⁴	Capacity Used	Credits Earned	Capacity Available ⁴	Capacity Used	Credits Earned
	Pre-plan ³			548,321			784,892
	2014	7,000	7,000	6510	120,000	7,854	7,304
	2015	7,000	7,000	6510	120,000	6,515	6,059
	2016	7,000	7,000	6510	120,000	2,520	2,344
	2017	7,000	7,000	6510	120,000	33,012	30,701
	2018	7,000	7,000	6510	120,000	70,337	65,414
	2019	7,000	7,000	6510	120,000	54,703	50,873
	2020	7,000	7,000	6510	120,000	38,960	36,233
	2021	7,000	7,000	6510	120,000	33,652	31,296
	2022	7,000	7,000	6510	120,000	28,324	26,341
	2023	7,000	7,000	6510	120,000	17,878	16,626
	Total			613,421			1,058,084
PINAL AMA ²		Groundwater Savings			Underground Storage		
	Year	Capacity Available ⁴	Capacity Used	Credits Earned	Capacity Available ⁴	Capacity Used	Credits Earned
	Pre-plan ³			196,850			0
	2014	139,000	14,229	13,233	-	-	0
	2015	139,000	5,933	5,517	-	-	0
	2016	139,000	5,800	5,394	-	-	0
	2017	139,000	3,813	3,546	-	-	0
	2018	139,000	-	-	-	-	0
	2019	139,000	-	-	-	-	0
	2020	139,000	-	-	-	-	0
	2021	139,000	-	-	-	-	0
	2022	139,000	-	-	-	-	0
	2023	139,000	-	-	-	-	0
	Total			224,540			-
TUCSON AMA ²		Groundwater Savings			Underground Storage		
	Year	Capacity Available ⁴	Capacity Used	Credits Earned	Capacity Available ⁴	Capacity Used	Credits Earned
	Pre-plan ³			14,841			379,966
	2014	8,000	-	0	37,763	26,713	24,843
	2015	8,000	-	0	40,861	26,661	24,795
	2016	8,000	-	0	41,076	17,476	16,253
	2017	8,000	-	0	46,000	32,410	30,141
	2018	8,000	-	0	46,000	-	0
	2019	8,000	-	0	46,000	-	0
	2020	8,000	-	0	46,000	-	0
	2021	8,000	-	0	46,000	-	0
	2022	8,000	-	0	46,000	-	0
	2023	8,000	-	0	46,000	-	0
	Total			14,841			475,997

¹ Expenditure of 4¢ ad valorem tax revenues given highest priority in Tucson and Pinal AMAs. In Phoenix AMA, 85% of water available stored using 4¢ ad valorem tax revenues in each year of Ten-Year Plan.

² M&I firming targets are Phoenix AMA - 1.566 MAF, Pinal AMA – 243,000 AF, and Tucson AMA – 864,000 AF.

³ Cumulative totals for 1997-2012; 2013 credits estimated based on projected deliveries.

⁴ Capacity available based on capacity remaining at facilities after all higher priority demands have been met.

APPENDIX E							
Credits Developed for Meeting AMA Water Management Goals Utilizing Withdrawal Fees ¹							
(Acre-feet)							
PHOENIX AMA ²		Groundwater Savings			Underground Storage		
	Year	Capacity Available ⁴	Capacity Used	Credits Earned	Capacity Available ⁴	Capacity Used	Credits Earned
	Pre-plan ³			163,572			140,537
	2014	0	-	0	112,146	2,621	2,438
	2015	0	-	0	113,485	2,385	2,218
	2016	0	-	0	117,480	1,680	1,562
	2017	0	-	0	86,988	7,061	6,567
	2018	0	-	0	49,663	13,648	12,692
	2019	0	-	0	65,297	10,889	10,126
	2020	0	-	0	81,040	8,111	7,543
	2021	0	-	0	86,348	7,174	6,672
	2022	0	-	0	91,676	6,234	5,797
	2023	0	-	0	102,122	4,390	4,083
	Total			163,572			200,236
PINAL AMA ²		Groundwater Savings			Underground Storage		
	Year	Capacity Available ⁴	Capacity Used	Credits Earned ⁵	Capacity Available ⁴	Capacity Used	Credits Earned
	Pre-plan ³			403,729			0
	2014	125,771	4,246	3,019	-	-	0
	2015	134,067	10,967	9,270	-	-	0
	2016	134,200	6,400	5,022	-	-	0
	2017	136,187	21,497	19,062	-	-	0
	2018	140,000	9,220	7,645	-	-	0
	2019	140,000	8,786	7,241	-	-	0
	2020	140,000	8,376	6,860	-	-	0
	2021	140,000	7,988	6,499	-	-	0
	2022	140,000	7,621	6,158	-	-	0
	2023	140,000	7,273	5,834	-	-	0
	Total		92,376	480,339			-
TUCSON AMA ²		Groundwater Savings			Underground Storage		
	Year	Capacity Available ⁴	Capacity Used	Credits Earned	Capacity Available ⁴	Capacity Used	Credits Earned
	Pre-plan ³			7,166			93,937
	2014	8,000	-	0	11,050	-	-
	2015	8,000	-	0	14,200	-	-
	2016	8,000	-	0	23,600	-	-
	2017	8,000	-	0	13,590	7,707	7,168
	2018	8,000	-	0	46,000	1,895	1,762
	2019	8,000	-	0	46,000	1,822	1,695
	2020	8,000	-	0	46,000	1,753	1,630
	2021	8,000	-	0	46,000	1,686	1,568
	2022	8,000	-	0	46,000	1,621	1,508
	2023	8,000	-	0	46,000	1,559	1,450
	Total			7,166			110,717

¹ Expenditure of withdrawal fees given second highest priority in Tucson and Pinal AMAs. In Phoenix AMA, 15% of water available stored using withdrawal fees in each year of Ten-Year Plan.

² M&I firming targets are Phoenix AMA - 1.566 MAF, Pinal AMA – 243,000 AF, and Tucson AMA – 864,000 AF.

³ Cumulative totals for 1997-2012; 2013 credits estimated based on projected deliveries.

⁴ Capacity available based on capacity remaining at facilities after all higher priority demands have been met.

⁵ No credits are received for water stored at the SSRB.

APPENDIX F							
Credits Developed for Annual General Fund Appropriations ^{1,2}							
(Acre-feet)							
PHOENIX AMA		Groundwater Savings			Underground Storage		
	Year	Capacity Available ⁴	Capacity Used	Credits Earned	Capacity Available ⁴	Capacity Used	Credits Earned
	Pre-plan ³			26,041			16,275
	2014	0	-	0	109,525	-	0
	2015	0	-	0	111,100	-	0
	2016	0	-	0	115,800	-	0
	2017	0	-	0	79,927	-	0
	2018	0	-	0	36,015	-	0
	2019	0	-	0	54,409	-	0
	2020	0	-	0	72,929	-	0
	2021	0	-	0	79,174	-	0
	2022	0	-	0	85,442	-	0
	2023	0	-	0	97,732	-	0
	Total			26,041			16,275
PINAL AMA		Groundwater Savings			Underground Storage		
	Year	Capacity Available ⁴	Capacity Used	Credits Earned	Capacity Available ⁴	Capacity Used	Credits Earned
	Pre-plan ³			306,968			0
	2014	121,525	-	0	-	-	0
	2015	123,100	-	0	-	-	0
	2016	127,800	-	0	-	-	0
	2017	114,690	-	0	-	-	0
	2018	130,780	-	0	-	-	0
	2019	131,214	-	0	-	-	0
	2020	131,624	-	0	-	-	0
	2021	132,012	-	0	-	-	0
	2022	132,379	-	0	-	-	0
	2023	132,727	-	0	-	-	0
	Total		-	306,968			-
TUCSON AMA		Groundwater Savings			Underground Storage		
	Year	Capacity Available ⁴	Capacity Used	Credits Earned	Capacity Available ⁴	Capacity Used	Credits Earned
	Pre-plan ³			2,846			51,700
	2014	8,000	-	0	11,050	-	0
	2015	8,000	-	0	14,200	-	0
	2016	8,000	-	0	23,600	-	0
	2017	8,000	-	0	5,883	-	0
	2018	8,000	-	0	44,105	-	0
	2019	8,000	-	0	44,178	-	0
	2020	8,000	-	0	44,247	-	0
	2021	8,000	-	0	44,314	-	0
	2022	8,000	-	0	44,379	-	0
	2023	8,000	-	0	44,441	-	0
	Total		-	2,846			51,700

¹ This Ten-Year Plan does not include a component for General Fund appropriations.

² The on-river M&I firming target is 420,000 acre-feet.

³ Cumulative totals for 1997 through 2013 are actuals.

⁴ Capacity available based on capacity remaining at facilities after all higher priority demands have been met.

APPENDIX G							
Credits Developed for Utilizing Funds Dedicated for Shortage Reparations ¹							
(Acre-feet)							
PHOENIX AMA		Groundwater Savings			Underground Storage		
	Year	Capacity Available ³	Capacity Used	Credits Earned	Capacity Available ³	Capacity Used	Credits Earned
	Pre-plan ²			4,590			16,051
	2014	0	-	0	112,146	-	0
	2015	0	-	0	113,485	-	0
	2016	0	-	0	117,480	-	0
	2017	0	-	0	86,988	-	0
	2018	0	-	0	49,663	-	0
	2019	0	-	0	65,297	-	0
	2020	0	-	0	81,040	-	0
	2021	0	-	0	86,348	-	0
	2022	0	-	0	91,676	-	0
	2023	0	-	0	102,122	-	0
	Total			4,590			16,051
PINAL AMA		Groundwater Savings			Underground Storage		
	Year	Capacity Available ³	Capacity Used	Credits Earned	Capacity Available ³	Capacity Used	Credits Earned
	Pre-plan ²			60,782			0
	2014	124,771	-	0	-	-	0
	2015	133,067	-	0	-	-	0
	2016	133,200	-	0	-	-	0
	2017	135,187	-	0	-	-	0
	2018	139,000	-	0	-	-	0
	2019	139,000	-	0	-	-	0
	2020	139,000	-	0	-	-	0
	2021	139,000	-	0	-	-	0
	2022	139,000	-	0	-	-	0
	2023	139,000	-	0	-	-	0
	Total			60,782			-
TUCSON AMA		Groundwater Savings			Underground Storage		
	Year	Capacity Available ³	Capacity Used	Credits Earned	Capacity Available ³	Capacity Used	Credits Earned
	Pre-plan ²						9,882
	2014	8,000	-	0	46,000	8,237	7,661
	2015	8,000	-	0	46,000	5,139	4,779
	2016	8,000	-	0	46,000	4,924	4,579
	2017	8,000	-	0	46,000	-	-
	2018	8,000	-	0	46,000	-	-
	2019	8,000	-	0	46,000	-	-
	2020	8,000	-	0	46,000	-	-
	2021	8,000	-	0	46,000	-	-
	2022	8,000	-	0	46,000	-	-
	2023	8,000	-	0	46,000	-	-
	Total			-			26,902

¹ \$8 million received from Nevada pursuant to the Arizona-Nevada Shortage-Sharing Agreement to assist Arizona in offsetting the impacts of shortage impacts during the Interim Period.

² Cumulative totals for 1997-2012; 2013 credits estimated based on projected deliveries.

³ Capacity available based on capacity remaining at facilities after all higher priority demands have been met.

APPENDIX H							
Credits Developed for Utilizing Indian Settlement Appropriations ¹							
(Acre-feet)							
PHOENIX AMA		Groundwater Savings			Underground Storage		
	Year	Capacity Available ⁴	Capacity Used	Credits Earned	Capacity Available ⁴	Capacity Used	Credits Earned
	Pre-plan ³			0			0
	2014	0	-	0	109,525	-	0
	2015	0	-	0	111,100	-	0
	2016	0	-	0	115,800	-	0
	2017	0	-	0	79,927	-	0
	2018	0	-	0	36,015	-	0
	2019	0	-	0	54,409	-	0
	2020	0	-	0	72,929	-	0
	2021	0	-	0	79,174	-	0
	2022	0	-	0	85,442	-	0
	2023	0	-	0	97,732	-	0
	Total			-			-
PINAL AMA		Groundwater Savings			Underground Storage		
	Year	Capacity Available ⁴	Capacity Used	Credits Earned	Capacity Available ⁴	Capacity Used	Credits Earned
	Pre-plan ³			0			0
	2014	121,525	-	0	-	-	0
	2015	123,100	-	0	-	-	0
	2016	127,800	-	0	-	-	0
	2017	114,690	-	0	-	-	0
	2018	130,780	-	0	-	-	0
	2019	131,214	-	0	-	-	0
	2020	131,624	-	0	-	-	0
	2021	132,012	-	0	-	-	0
	2022	132,379	-	0	-	-	0
	2023	132,727	-	0	-	-	0
	Total			-			-
TUCSON AMA		Groundwater Savings			Underground Storage		
	Year	Capacity Available ⁴	Capacity Used	Credits Earned	Capacity Available ⁴	Capacity Used	Credits Earned
	Pre-plan ³			0			28,481
	2014	8,000	-	0	11,050	-	0
	2015	8,000	-	0	14,200	-	0
	2016	8,000	-	0	23,600	-	0
	2017	8,000	-	0	5,883	-	0
	2018	8,000	-	0	44,105	-	0
	2019	8,000	-	0	44,178	-	0
	2020	8,000	-	0	44,247	-	0
	2021	8,000	-	0	44,314	-	0
	2022	8,000	-	0	44,379	-	0
	2023	8,000	-	0	44,441	-	0
	Total			-			28,481

¹ The State Indian firming target is estimated at 550,000 acre-feet.

² Credits accrued through the expenditure of \$3 million for assisting Federal government in meeting its firming obligation under Section 306 of the Arizona Water Settlements Act.

APPENDIX I

Potential Credits Developed for Interstate Water Banking

(Acre-feet)

Year	Available CAP Supplies ¹	Available AWBA Capacity ²	Interstate Deliveries ³	Interstate Credits ⁴	ICUA ⁵	Remaining Credits ⁶	Supply Available ⁷
Pre-plan ⁸						600,651	
2014	-	250,100	-	-	-	600,651	-
2015	-	256,400	-	-	-	600,651	-
2016	-	275,200	-	-	-	600,651	-
2017	-	208,500	-	-	-	600,651	-
2018	-	218,900	-	-	-	600,651	-
2019	-	237,800	-	-	20,000	580,651	-
2020	-	256,800	-	-	30,000	550,651	-
2021	-	263,500	-	-	40,000	510,651	-
2022	-	270,200	-	-	40,000	470,651	-
2023	-	282,900	-	-	40,000	430,651	-
Total			-	-	170,000		

¹ Water available for Interstate Banking is calculated by subtracting the water delivered and stored by the AWBA for intrastate water banking from the total water supply available for the AWBA (see Appendix B).

² Reflects unused capacity available to AWBA at USFs and GSFs in the Phoenix, Pinal, and Tucson AMAs. Additional capacity may be available at individual facilities based on utilization by individual water storage permit holders.

³ Projected deliveries are based on the Third Amended and Restate Agreement for Interstate Water Banking dated May 20, 2013 and an annual limitation of 200,000 AF/YR.

⁴ Calculation: Interstate deliveries multiplied by 93%.

⁵ Pursuant to the Recovery Agreement among AWBA, CAWCD, SNWA, and CRCN executed June 9, 2010, recovery is anticipated to begin on or after 2018. Ten-Year Plan assumes maximum allowable annual recovery as described in Third Amended and Restated Agreement for Interstate Water Banking executed May 20, 2013.

⁶ Calculation: credits available minus assumed ICUA during this Ten-Year Plan.

⁷ Calculation: Available CAP Supplies minus Interstate Deliveries.

⁸ Cumulative totals for 2002-2012; 2013 credits estimated based on projected deliveries.

APPENDIX J

**BOARD POLICY**

Approved by CAWCD Board 5/2/13

CAWCD Underground Storage Facility Capacity Priority Policy

CAWCD currently owns and operates six underground storage facilities (USFs) with a total annual operational capacity of approximately 300,000 acre-feet. Requests by various entities for approval of water storage agreements at CAWCD underground storage facilities (USFs) continue to accumulate. Entities currently ordering CAP water for delivery and recharge at CAWCD USFs include the CAGRD, AWBA, municipal and private water providers, industrial users, water investment firms and Indian tribes. Water storage agreements do not guarantee water delivery or storage capacity. Although CAWCD has historically met nearly all customer requests for underground storage, the lack of a formal policy for prioritization of storage capacity has led to concerns about competing demands and the potential for insufficient storage at one or more of the USF sites.

CAWCD has statutory obligations to support the efforts of the Central Arizona Groundwater Replenishment District (CAGRD) and the Arizona Water Banking Authority (AWBA) to store and replenish water for the public benefit. CAWCD also has entered into contractual agreements with specific partners at different recharge locations and has made commitments to store water for system reliability purposes. CAWCD also desires to support the water management objectives of its CAP subcontractors. This policy provides priorities and guidelines to support these objectives. This policy does not prioritize access to CAP water, it relates only to prioritization of capacity in CAWCD USFs.

Policy Objective:

The objective of this policy is to convey a clear method for scheduling recharge capacity at CAWCD USFs. This policy describes scheduling practices already in place and communicates priorities that will be used to resolve conflicts for available capacity that may arise in the scheduling process. This policy is applicable to all entities who desire to store water at CAWCD USFs.

Policy Guidelines:

The following guidelines describe a methodology for scheduling storage capacity at CAWCD USFs.

Step 1: By October 1, contractors submit requests to CAP for storage capacity in a CAP USF, along with their request for CAP water deliveries.

Step 2: Before considering capacity in CAP USFs, CAWCD compiles all requests for water deliveries to determine if the projected available CAP water supplies will be sufficient to satisfy all requests.

Step 3: If requests for water deliveries exceed the projected available CAP water supplies, CAWCD makes adjustments to requested water delivery schedules in compliance with existing water scheduling guidelines and policies (e.g., Access to Excess Policy).

Step 4: CAWCD makes adjustments to CAP USF storage capacity requests based on the adjustments to water delivery schedules from Step 3.

Step 5: CAWCD compiles all requests for CAP USF storage capacity (with any adjustments as provided in Step 4) to determine if there will be sufficient storage capacity available to satisfy all requests.

Step 6: If there is not sufficient storage capacity at one or more CAP USFs to satisfy all requests from Step 5, CAWCD contacts requesters individually to determine their willingness to reduce their request or “relocate” some or all of their requested capacity to a different facility.

Step 7: If voluntary relocations/reductions from Step 6 are not sufficient, CAWCD convenes a meeting of all affected requesters to provide a forum for the requesters to come to agreement on the best way to share the storage capacity.

Step 8: If an agreement on sharing the storage capacity cannot be reached in Step 7, CAWCD uses the following priorities to establish the final storage schedules for CAP USFs:

1. Water storage requests for entities with contractual rights to CAP storage facilities (up to the volume limit of the contractual right). This includes ownership partners and any reliability agreements that CAP has entered into for specific facilities.
2. Water storage requests for CAGRD replenishment obligations.
3. Water storage requests for entities with statutory firming obligations (with co-equal priority) including:
 - a. AWBA
 - b. CAGRD Replenishment Reserve
 - c. United States (Indian Firming)
4. Individual CAP long-term contract entitlements – priority will be given to entities storing within the AMA where their service area is located.
5. Individuals storing water under a CAP excess contract.

Step 9: CAWCD notifies all contractors of the final CAP USF storage schedules.